

Thermal analysis of interaction of epidermal lipids IV

Radka Komárková, diploma paper, June 2009

Abstract

Main function of skin is protect organism in face of chemical and mechanical damage. Skin is composed of several layers, and most considerable barrier of which forges most upper part stratum corneum. Stratum corneum contains cells fill in with keratin, which are surrounded lipid matrix. Main components of lipid matrix are ceramides (50%), cholesterol (25%) and fatty acids (10%).

At present are many experimental works specialized up to preparation in vitro lipid membrane and aim of our work is find out, whether concentration of water can influence hydration lipophilic components of lipid membrane. We used samples, which had constant composition lipid mixture (cholesterol : ceramid 14S24, 1:5) and they differentiated content of water (75%, 50% and 25%). This samples were remit to several cycles of cool down and warming up by the help of DSC, where was establishment only one mixed peak of lipid mixture. All samples showed out interaction with water, however sample with 25% substantiality, it was rather on limits of analytic mistake.